ASOS MODIFICATION NOTE 49 (for Electronics Technicians)
Engineering Division
W/OSO321:WW/WDW
Revision Date: 09/17/99

SUBJECT	:	V.34 (28,800 Baud) High-Speed Modem
PURPOSE	:	Upgrade modems from 2400 baud to V.34 (28,800) baud.
EQUIPMENT AFFECTED	:	Automated Surface Observing System (ASOS) Modem Rack (Modem Rack Position's 4)
PARTS REQUIRED	:	V.34 Modem P/N 62828-900431-1
MOD PROCUREMENT:		This modem is required for all ASOS sites. Washington Central Support will issue one V.34 (28,800 baud) modem, S100-1A3A1-3, for each ASOS.
EFFECTIVITY	:	All ASOS sites.
SPECIAL TOOLS REQUIRED	:	Electrostatic Discharge (ESD) Straps
TIME REQUIRED	:	1 hour
EFFECT ON OTHER INSTRUCTIONS	:	Engineering Modification Note 50 and 47 must be installed prior to this modification.
AUTHORIZATION	:	This modification is authorized by Engineering Change Proposal **95SM05F139**.
VERIFICATION STATEMENT	:	This modification was tested for operational integrity at the sites listed in appendix A.

GENERAL

This modification note provides procedures to upgrade ASOS 2400 baud modems to a V.34 (28,800 baud) High-Speed Modem. This replacement will reduce downloading time for data retrieval and, thus, reduce long-term communication costs.

PROCEDURE

The following instructions are for removal and replacement of ASOS 2400 baud modems.
If installing with Modification Note 47, proceed to the High-Speed Modem installation section.
Complete steps 1-6.

BEFORE INSTALLATION OF THE V.34 (28,800 BAUD) HIGH-SPEED MODEM

CAUTION:

For the V.34 High-Speed Modem to function properly, Modification Note 47 and 50 *must* be completed prior to installation of the V.34 High-Speed Modem.

1. Call the ASOS Operations and Monitoring Center (AOMC) at 1-800-242-8194 and provide notification on which ASOS you will be installing the V.34 High-Speed Modem.

2. Make the appropriate SYSLOG entries (MAINT-ACT-FMK) for Modification Note 49.
   a. Log on as **TECH**.
   b. Key the **MAINT** screen.
   c. Key the **ACT** page.
   d. Key **START** - Stop here and perform "ASOS V.34 (28,800 BAUD) MODEM INSTALLATION."

ASOS V.34 (28,800 BAUD) HIGH-SPEED MODEM INSTALLATION

Note:

Removing power from the modem rack before removing or inserting a modem card is not necessary .

CAUTION:

To avoid damage to circuit boards and integrated circuits, use proper ESD handling procedures found in EHB-5.

1. While pulling the handle on the front of the modem, remove the existing 2400 baud rate modem from modem rack slot 1A3A4.

2. Slide the new V.34 (28,800 baud) modem (P/N 62828-90431-1) into the modem rack slot 1A3A4.

Note:

When the V.34 modem is installed, the modem will power up and display the current modulation, baud rate, and modem status (ie. V.34 28800 IDLE).

3. At an operator interface device (OID), perform the following:
   a. Sign onto the system as a **TECH**.
   b. Proceed to the communications page (**REVUE-SITE-CONFG-COMMS**).
   c. Using the **NEXT** key, move the cursor to SIO#2-Port#3 (OID-4 User#2).
   d. Press the **CHANG** key.
   e. Using the **SEQN** key, set each category below to the following:
   f. (Use the 9 and8 arrow keys to change data fields).

FUNCTION	OID-4 USER #2
STATUS	ENABLED
BAUD RATE	38400
PARITY SELECT	NONE
BITS/CHAR	8
STOP BITS	1
HANDSHAKE	NONE
CONNECTION	PHONE
MODEM SLOT	5
DIAL TYPE	TONE

g. Press the **EXIT** key.
h. Press the **MAINT** key.
i. Select **ACU**.
j. Again, using the **NEXT** key, position the cursor on the **MODEM RACK** and press **SEL**.
k. Again, using the **NEXT** key, position the cursor on the **OID-4 USER #2** and press **TEST**.

Note:

The Acquisition Control Unit (ACU) firmware automatically configures the new modem for operation using the AT command set and initiates a test of the newly installed modem.

4. If the result of the test is **P (Pass)**, press **EXIT** and proceed to step 6.

5. If the result of the test is **F (Fail)**, perform the following:

Note:

The following process will load factory option set #1 as the power-up configuration, enabling the AT command set for communicating with the ACU.

a. On the front panel of the V.34 modem, press the **NO** push button until the display reads **"MODIFY CONFIGURATION**."
b. Press the **YES** push button.
c. Then, press the **NO** push button until the display reads **"LOAD OR STORE OPTION SET?"**
d. Press the **YES** push button; the display reads **"LOAD FACTORY OPTION**."
e. Press the **YES** push button; the display reads **"LOAD FACTORY OPTION #1."**
f. Press the **YES** push button; the display reads **"ARE YOU SURE?"**
g. Press the **YES** push button; the display reads **"STORE PRESENT OPTIONS?"**
h. Press the **YES** push button; the display reads **"STORE TO USER OPTION SET #1?"**
i. Press the **YES** push button; the display reads **"ARE YOU SURE?"**
j. Press the **YES** push button.

k. Then press **TALK/DATA** until the modem display returns to the power-up status display. (Refer to the note between steps 2 and 3 of page 2.)

6. The installation of the V.34 High-Speed Modem is complete. Proceed with "AFTER INSTALLATION OF THE V.34 MODEM." If installing in conjunction with Modification Note 47, proceed with the data collection package (DCP) EPROM installation of Modification Note 47.

AFTER INSTALLATION OF THE V.34 (28,800 BAUD) HIGH-SPEED MODEM

1. Call the AOMC at 1-800-242-8194 and inform the operator of:
   a. Your location.
   b. The installation of the V.34 High-Speed Modem has been completed.

2. Enter in the SYSLOG that maintenance has been completed.
   a. Key the **MAINT** screen.
   b. Key the **ACT** page.
   c. Key **FMK** - Enter the Field Mod Kit (FMK) number as follows: **Modification Note 49**. Press **ENTER**. On the second line of the screen verify that only Modification Note 49 is displayed. Complete by entering **Y** in the [Y/N] area if only Modification Note 49 is displayed. If other modifications are completed, make the appropriate log entry.
   d. Check the SYSLOG and verify the FMK message. Enter a comment in the SYSLOG stating that the V.34 High-Speed Modem has been installed.

REPORTING MODIFICATION

Target date for completion of this modification is 30 days after receipt of parts. Report the completed modification on a National Weather Service Form A-26, Maintenance Record, using the instructions in Engineering Handbook No. 4 (EHB-4), Engineering Management Reporting System (EMRS), part 2, appendix F. Report modification to the modem rack using equipment code **AACU** in block 7. Record modification number **49** in block_17a of the A-26. Reference appendix B for a completed sample of WS Form A-26, Maintenance Record.

In addition to the above instructions, please enter the following information on the A-26:

1. In block 13, block 1, enter ASN = S100-1A3A1-1, NSN = 5998-01-386-8662, TM=M, AT=M, How Mal=999, Qty = 1, and the Maint. Hrs. for the **2400** baud modem.

2. In block 18, enter the vendor part number of the 28,800 modem (62828-90431-1), the serial number of the old 2400 modem, and the serial number of the new 28,800 modem. (The agency stock number field of block 18 will automatically be populated.)

Original Signed

John McNulty
Chief, Engineering Division
Appendix A - Test Sites
Appendix B - A-26
W/OSO321:B.Whisel:713-1833x156
File:W/OSO32:\OSO321\ASOS Temps\Mod49.wpd
updated:9/14/99:9/17/99:src:spellchecked:9/14/99:9/17/99:src

The Test Sites for the V.34 High-Speed Modems are:

SID	ASOS ID	CITY	STATE	AIRPORT	V.34 High-Speed Modem
LWX	ST0	Sterling	VA	Engineering Test Facility	(1) for Initial Test (2) for Final Test
LWX	ST1	Sterling	VA	Engineering Test Facility	1
SLVM2	SP1	Silver Spring (Roof)	MD	NWS Headquarters	1

SID	Name	Cmssion Status	Staffing		Config	Multiple Sensors	Comms	ZR	TSTM / ALDARS	GTA	ACE	RVR
			NWS	FAA								
CLE	Cleveland, OH	Y	FT	-	2 DCP	M	AFOS	ZR	-	-	-	-
CON	Concord, NH	Y	FT/C	-	1 DCP	-	PACE	ZR	TSTM	GTA	-	-
DCA	National Reagan, VA	Y	-	FT/C	1 DCP	B	PACE	ZR	-	-	ACE	EDIT
DMH	Baltimore, MD	Y	-	-	SCA	-	AFOS	-	-	-	-	-
MRB	Martinsburg, WV	N	-	-	1 DCP	-	ADAS	ZR	ALDARS	GTA	-	-

SID	Name	Cmssion Status	Staffing		Config	Multiple Sensors	Comms	ZR	TSTM / ALDARS	GTA	ACE	RVR
			NWS	FAA								
ABQ	Albuquerque, NM	Y	FT	-	1 DCP	-	AFOS	-	-	-	-	-
ALI	Alice, TX	N	-	FT/C	1 DCP	-	ADAS	-	ALDARS	GTA	-	-
COT	Cotulla, TX	N	-	FT/C	1 DCP	-	ADAS		ALDARS	GTA	-	-
CRP	Corpus Christi, TX	Y	FT	-	1 DCP	-	AFOS	-	-	-	-	
CSV	Crossville, TN	N	-	FT/C	1 DCP	-	ADAS	ZR	ALDARS	GTA	-	-
DHT	Dalhart, TX	N	-	FT/C	1 DCP	-	ADAS		ALDARS	GTA	-	-
INK	Wink, TX	N	-	FT/C	1 DCP	-	ADAS	ZR	ALDARS	GTA	-	-
LCH	Lake Charles, LA	Y	FT	-	1 DCP	-	AFOS	-	-	-	-	-
MEM	Memphis, TN	N	-	FT/C	3 DCP	B	ADAS	ZR	ALDARS	-	-	NGRVR
OKC	Oklahoma City, OK	Y	-	FT/C	1 DCP	-	AFOS	ZR	-	-	ACE	NGRVR
PBF	Pine Bluff, AR	N	-	FT/C	1DCP	-	ADAS	ZR	ALDARS	GTA	-	-
SSI	Brunswick, GA	N	-	FT/C	1 DCP	-	ADAS	-	ALDARS	GTA	-	-
TCC	Tucumcari, NM	N	-	FT/C	1 DCP	-	ADAS		ALDARS	GTA	-	-
GRR	Grand Rapids, MI	Y	FT	-	2 DCP	M	AFOS	ZR	-	-	-	-
ICT	Wichita, KS	Y	FT	-	1 DCP	-	AFOS	ZR	-	-	-	-
ISN	Williston, ND	Y	FT	-	1 DCP	-	PACE	ZR	TSTM	GTA	-	-

SID	Name	Cmssion Status	Staffing		Config	Multiple Sensors	Comms	ZR	TSTM / ALDARS	GTA	ACE	RVR
			NWS	FAA								
LBF	North Platte, NE	Y	FT	-	1 DCP	-	AFOS	ZR	-	GTA	-	-
MCW	Mason City, IA	N	-	FT/C	1 DCP	-	ADAS	ZR	ALDARS	GTA	-	-
OFK	Norfolk, NE	Y	FT/C	-	1 DCP	-	PACE	ZR	TSTM	GTA	-	-
ACV	Arcata, CA	N	-	FT/C	1 DCP	-	ADAS	-	ALDARS	GTA	-	-
DAG	Daggett, CA	N	-	PT/C	1 DCP	-	ADAS	-	ALDARS	GTA	-	-
DUG	Douglas Bisbee, AZ	N	-	PT/C	1 DCP	-	NONE	-	ALDARS	-	-	-
ELY	Ely, NV	Y	FT/C	-	1 DCP	-	PACE	-	TSTM	GTA	-	-
HVR	Havre, MT	Y	PT/C	-	1 DCP	-	PACE	ZR	TSTM	GTA	-	-
LAX	Los Angeles, CA	Y	FT/C	-	2 DCP	B	PACE	-	-	-	-	NGRVR
OAK	Oakland, CA	N	-	FT/C	1 DCP	B	ADAS	-	ALDARS		-	
SEA	Seattle, WA	Y	-	FT/C	2 DCP	B	PACE	ZR	-	-	-	NGRVR
SLC	Salt Lake City, UT	Y	FT/C	-	2 DCP	M/B	AFOS	ZR	-	-	-	NGRVR
ADQ	Kodiak, AK	Y	FT	-	1 DCP	-	ADAS	ZR	-	-	-	-
FAI	Fairbanks, AK	Y	FT	-	2 DCP	M	ADAS	ZR	-	-	-	NGRVR
PAQ	Palmer, AK	Y	-	PT	1 DCP	-	GS-200	ZR	-	GTA	-	-
HNL	Honolulu, HI	Y	FT/C	-	2 DCP	B	ADAS	-	-	-	-	EDIT
ITO	Hilo, HI	Y			1 DCP	-	ADAS	-	-	-	-	-

A-26 (EMRS)